Name:

p1105: Factoring when $a = 1$ (v14)

Example: Factor $x^2 + 5x - 24$

Find two numbers whose product is -24 and whose sum is 5. Focus on finding factor pairs of -24. Eventually you consider 8 and -3 because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 - 13x + 36$

   $(x - 9)(x - 4)$

2. Factor $x^2 - 6x + 5$

   $(x - 5)(x - 1)$

3. Factor $x^2 + 13x + 36$

   $(x + 4)(x + 9)$

4. Factor $x^2 + 13x + 40$

   $(x + 5)(x + 8)$

5. Factor $x^2 - 5x - 6$

   $(x - 6)(x + 1)$

6. Factor $x^2 - 5x - 24$

   $(x - 8)(x + 3)$

7. Factor $x^2 + 5x + 6$

   $(x + 3)(x + 2)$

8. Factor $x^2 - 3x - 18$

$(x - 6)(x + 3)$

9. Factor $x^2 + 13x + 42$

$(x + 6)(x + 7)$

10. Factor $x^2 + 8x + 12$

$(x + 2)(x + 6)$

11. Factor $x^2 - 64$

$(x - 8)(x + 8)$

12. Factor $x^2 - 81$

$(x - 9)(x + 9)$

13. Factor $x^2 - 5x - 14$

$(x + 2)(x - 7)$

14. Factor $x^2 + 10x + 25$

$(x + 5)(x + 5)$

15. Factor $x^2 - 2x - 63$

$(x - 9)(x + 7)$